

FORMING COPPER INTERCONNECTS WITH SN COATINGS

ABSTRACT OF THE DISCLOSURE

- 5 A copper interconnect with a Sn coating is formed in a damascene structure by forming a trench in a dielectric layer. The trench is formed by electroplating copper simultaneously with a metal dopant to form a doped copper layer. The top level of the doped copper layer is reduced to form a planarized surface level with the surface of the first dielectric layer. The doped copper is annealed to drive the metal dopants to
- 10 form a metal dopant capping coating at the planarized top surface of the doped copper layer.